

CLAIMS

Now, therefore, the following is claimed:

- 1 1. A single logical screen (SLS) graphical display system, comprising:
2 an interface configured to receive graphical data defining an image;
3 a plurality of display devices; and
4 a plurality of graphical acceleration units, each of said plurality of graphical
5 acceleration units respectively interfaced with one of said plurality of display devices
6 and configured to render a portion of said graphical data to said one display device
7 such that said display devices display said image as a single logical screen, wherein at
8 least one of said graphical acceleration units comprises:
9 a first graphical pipeline configured to render graphical data from said
10 portion rendered by said at least one graphical acceleration unit;
11 a second graphical pipeline configured to render graphical data from
12 said portion rendered by said at least one graphical acceleration unit; and
13 a compositor configured to interface with said one display said
14 graphical data rendered by said first and second graphical pipelines.

1 2. The system of claim 1, wherein:
2 said first graphical pipeline is configured to mathematically combine a first
3 offset with coordinate values included in said graphical data rendered by said first
4 graphical pipeline;
5 said second graphical pipeline is configured to mathematically combine a
6 second offset with coordinate values included in said graphical data rendered by said
7 second graphical pipeline; and
8 said compositor is configured to blend color values associated with
9 corresponding coordinate values within said graphical data rendered by said first and
10 second graphical pipelines.

1 3. The system of claim 1, wherein said first graphical pipeline is
2 configured to discard said graphical data rendered by said second graphical pipeline,
3 and wherein said second graphical pipeline is configured to discard said graphical data
4 rendered by said first graphical pipeline.

1 4. The system of claim 3, wherein said first graphical pipeline is
2 configured to receive an input identifying a first coordinate range and is configured to
3 discard said graphical data rendered by said second pipeline based on said first
4 coordinate range, and wherein said second graphical pipeline is configured to receive
5 an input identifying a second coordinate range and is configured to discard said
6 graphical data rendered by said first graphical pipeline based on said second
7 coordinate range.

1 5. The system of claim 3, wherein said first graphical pipeline is further
2 configured to super sample said graphical data rendered by said first graphical
3 pipeline, and wherein said second graphical pipeline is further configured to super
4 sample said graphical data rendered by said second graphical pipeline.

1 6. The system of claim 5, wherein said compositor is configured to blend
2 color values included in said graphical data rendered by said first and second graphical
3 pipelines.

1 7. A single logical screen (SLS) graphical display system, comprising:
2 means for receiving a graphical command;
3 means for rendering graphical data included within said graphical command to
4 a plurality of frame buffers, said rendering means including a plurality of pipeline
5 means for rendering a portion of said graphical data to one of said frame buffers; and
6 a plurality of display means, each of said display means for displaying an
7 image based on graphical data stored in a respective one of said plurality of frame
8 buffers.

1 8. The system of claim 7, wherein each of said plurality of pipeline means
2 includes a means for mathematically combining a different offset to coordinate values
3 included in said portion of said graphical data, and wherein said rendering means
4 includes a means for blending color values associated with corresponding coordinate
5 values within said portion of said graphical data.

1 9. The system of claim 7, wherein said rendering means includes a means
2 for receiving an input identifying a coordinate range, and wherein one of said pipeline
3 means includes a means for discarding graphical data from said graphical data portion.

1 10. The system of claim 9, wherein each of said pipeline means is
2 configured to super sample graphical data from said graphical data portion, and
3 wherein said rendering means includes a means for blending color values included in
4 said super sampled graphical data.

1 11. A single logical screen (SLS) graphical display method, comprising the
2 steps of:
3 providing a plurality of graphical acceleration units, at least one of said
4 graphical acceleration units including a plurality of graphical pipelines;
5 providing a plurality of display devices;
6 receiving graphical data defining an image;
7 rendering different portions of said graphical data via different ones of said
8 graphical acceleration units; and
9 displaying said image across said display devices as a single logical screen
10 based on said graphical data rendered in said rendering step,
11 wherein said rendering step includes the step of rendering graphical data from
12 one of said portions via each of said plurality of pipelines.

1 12. The method of claim 11, wherein said rendering step further includes
2 the steps of:
3 mathematically combining different offsets with coordinate values included in
4 said graphical data rendered via said plurality of pipelines; and
5 blending color values associated with corresponding coordinate values
6 included in said graphical data rendered via said plurality of pipelines.

1 13. The method of claim 11, further comprising the steps of:
2 receiving an input identifying a coordinate range; and
3 discarding, via one of said plurality of graphical pipelines, graphical data from
4 said one portion based on said coordinate range.

1 14. The method of claim 13, wherein said rendering step includes the steps
2 of:
3 super-sampling graphical data from said one portion via said plurality of
4 pipelines; and
5 blending color values included in said super sampled graphical data.